

1. A process of forming a virtual cutting edge on a carton blank, comprising the steps of

contacting a tape having a film backing and a coating of an adhesive with one surface of a board selected from the group consisting of container board and box

5 board,

cutting a plurality of cut-lines in the board and tape such that pairs of the cut-lines form a triangular area defining a tooth shape having a point and a base, said pairs of cut-lines forming teeth on opposing sides of an imaginary line extending lengthwise along the tape and the board, said teeth being spaced apart along said line.

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2. The process of claim 1, wherein said adhesive comprises a hot melt adhesive.

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3. The process of claim 1, wherein said adhesive comprises a pressure sensitive adhesive.

4. The process of claim 1, wherein said board comprises box board.

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5. The process of claim 1, wherein said board comprises corrugated container board.

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6. A process of forming a virtual cutting edge on a carton blank, comprising the steps of

contacting a first adhesive surface of an adhesive tape with a first substrate,

said tape comprising a film backing, a first adhesive

composition disposed on a first surface of said backing, a second adhesive composition disposed on a second surface of said backing,

said first substrate comprising a first component of a container

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board;

contacting said second adhesive surface of said tape with a second substrate to form a laminate, said second substrate comprising a second component of a container board; and

5 cutting a plurality of cut-lines in said laminate such that pairs of cut-lines form a triangular area defining a tooth shape having a point and a base, said pairs of cut-lines forming teeth on opposing sides of an imaginary line extending lengthwise along said tape, said teeth being spaced apart along said imaginary line.

7. The process of claim 6, wherein said second substrate comprises fluted material adhered to an inside liner.

10 8. The process of claim 6, wherein said adhesive comprises hot melt adhesive.

15 9. The process of claim 6, wherein said adhesive comprises pressure sensitive adhesive.

10. The process of claim 6, wherein said film backing comprises polymer.

20 11. The process of claim 6, wherein said board comprises corrugated container board.

12. A carton blank comprising
25 a first board comprising a container board, a box board, or a component thereof;

a tape bonded to said first board, said tape comprising a backing and an adhesive coated on one surface of said backing; and
25 a plurality of cuts in said tape and said first board, said cuts defining cut-lines, wherein pairs of cut-lines form a triangular area defining a tooth shape having a point and a base, said pairs of cut-lines forming a plurality of teeth on opposing sides of an imaginary line extending lengthwise along said tape and said first board, 30 said teeth being spaced apart from one another along said imaginary line.

13. The blank of claim 12, wherein said teeth formed by the cut-lines on one side of said imaginary line are staggered from the teeth on the other side of the line, the bases of said teeth being adjacent said imaginary line.

14. The blank of claim 12, wherein said adhesive comprises a hot melt adhesive selected from the group consisting of ethylene-vinyl acetate-based hot melt adhesive, a metallocene-based hot melt pressure-sensitive adhesive, ethylene

5 methacrylate-based hot melt adhesive, ethylene methacrylate-based hot melt pressure-sensitive adhesive, ethylene n-butyl acrylate-based hot melt adhesive, polyethylene hot melt adhesive, polypropylene hot melt adhesive, rubbery block copolymer hot melt adhesive and combinations thereof.

10 15. The blank of claim 14, wherein said hot melt adhesive comprises homogeneous linear or substantially linear interpolymer of ethylene and C₃ to C₂₀ alpha-olefin.

15 16. The blank of claim 12, wherein said first board comprises a first board component, said blank further comprising a second board component comprising a fluted paper medium and an inside paper lining, said second board component bonded to said tape and said first board to form a laminate, said cuts extending through said laminate in the area of said tape to form said teeth.

20 17. The blank of claim 12, wherein said blank comprises a bottom panel, a front panel, a back panel, a lid and end closing panels, said panels being defined by score lines.

18. The blank of claim 16, wherein said blank comprises a bottom panel, a front panel, a back panel, a lid and end closing panels defined by score lines.

25 19. The blank of claim 12, wherein said tape is bonded to said first board along a score line, said imaginary line being congruent with said score line.

30 20. The blank of claim 17, further comprising a reinforcing panel joined to said front panel, said the tape being positioned over a score line between said front panel and said reinforcing panel.

21. The blank of claim 17, wherein said tape is positioned over the score line between said bottom panel and said front panel.

22. A carton comprising
5 box board panels including a bottom panel, a front panel, a front reinforcing panel, a back panel, a lid, a flap, end closing panels, and score lines connecting adjacent panels; and
a length of tape adhered to said box board and positioned congruent to a score line, said tape having a polymeric backing coated on one side with
10 adhesive,

said tape and box board having a plurality of cuts defining cut-lines, wherein pairs of cut-lines form a triangular area defining a tooth shape having a point and a base,

15 said cut-lines forming a plurality of teeth on opposing sides of said score line, said teeth being spaced apart from one another along said score line.

23. A carton according to claim 22, wherein the teeth formed by cut-lines on one side of the score line are staggered from the teeth on the other side of the score line, the bases of the teeth being adjacent the line.
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24. A carton according to claim 23, wherein the adhesive is a hot melt adhesive selected from the group consisting of ethylene-vinyl acetate-based hot melt adhesive, a metallocene-based hot melt pressure-sensitive adhesive, ethylene
25 methacrylate-based hot melt adhesive, ethylene methacrylate-based hot melt pressure-sensitive adhesive, ethylene n-butyl acrylate-based hot melt adhesive, polyethylene hot melt adhesive, polypropylene hot melt adhesive, rubbery block copolymer hot melt adhesive and combinations thereof.

30 25. The carton of claim 24, wherein said hot melt adhesive comprises homogeneous linear or substantially linear interpolymer of ethylene and C₃ to C₂₀ alpha-olefin.

26. A process of forming a virtual cutting edge on a carton blank, said process comprising:

contacting a tape with a first substrate, said tape comprising a film backing and a an adhesive composition disposed on said backing; and

5 cutting a plurality of cut-lines in the first substrate and tape such that pairs of cut-lines form a triangular area defining a tooth shape having a point and a base, said pairs of cut-lines forming teeth on opposing sides of an imaginary line that extends lengthwise along the tape and the first substrate, said teeth being spaced apart along said imaginary line.

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27. The process of claim 26, wherein said tape further comprises an adhesive composition disposed on a second surface of said backing, opposite said first surface, said process further comprising

15 contacting said second adhesive coated side of said tape with a second substrate.

28. The process of claim 26, wherein said second substrate comprises a fluted material adhered to a liner.

20 29. The process of claim 26, further comprising:

laminating a second substrate to said tape and said first substrate, said second substrate comprising a laminate of fluted material and a liner;

25 cutting the laminated construction into a carton blank; and forming cut-lines through the carton blank in the area of the tape.

30. The process of claim 26, wherein said adhesive comprises hot melt adhesive.

31. The process of claim 26, wherein said first adhesive and said second adhesive comprise hot melt adhesive.

32. The process of claim 26, wherein said adhesive comprises pressure sensitive adhesive.

33. A carton blank comprising

5 a first substrate;

a tape comprising a backing and an adhesive disposed on a first surface of said backing, said backing being bonded to said first substrate through said adhesive; and

10 a plurality of cuts in the tape and first substrate defining cut-lines, pairs of cut-lines forming a triangular area defining a tooth shape having a point and a base, said pairs of cut-lines forming a plurality of teeth on opposing sides of an imaginary line extending lengthwise along said tape and said first substrate, said teeth being spaced apart from one another along said imaginary line.

15 34. The carton blank of claim 33, wherein the teeth formed by said cut-lines on one side of the imaginary line are staggered relative to teeth on the other side of the line, the bases of the teeth being adjacent the line.

20 35. The carton blank of claim 33, wherein said adhesive comprises a hot melt adhesive.

25 36. The carton blank of claim 35, wherein said hot melt is selected from the group consisting of ethylene-vinyl acetate-based hot melt adhesive, a metallocene-based hot melt pressure-sensitive adhesive, ethylene methacrylate-based hot melt adhesive, ethylene methacrylate-based hot melt pressure-sensitive adhesive, ethylene n-butyl acrylate-based hot melt adhesive, polyethylene hot melt adhesive, polypropylene hot melt adhesive, rubbery block copolymer hot melt adhesive and combinations thereof.

30 37. The carton blank of claim 35, wherein said hot melt adhesive comprises homogeneous linear or substantially linear interpolymer of ethylene and C₃ to C₂₀ alpha-olefin.

38. The carton blank of claim 33, further comprising a second substrate comprising a fluted paper medium and an inside paper lining, said second substrate being bonded through said adhesive to said backing to form a laminate, said cuts extending through said laminate in the area of said tape to form said teeth.

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39. The carton blank of claim 33, wherein said blank comprises a bottom panel, a front panel, a back panel, a lid and end closing panels defined by score lines.

40. The carton blank of claim 33, wherein said tape is bonded to said board along a score line, the imaginary line being congruent with the score line.

41. The carton blank of claim 33, wherein said tape is positioned uniformly along a score line, the imaginary line being congruent with the score line.

42. The carton blank of claim 33, further comprising a reinforcing panel, said reinforcing panel adjacent the front panel, said tape positioned over a score line between said front panel and said reinforcing panel.

43. The carton blank of claim 33, wherein said tape is positioned over a score line between said bottom panel and said front panel.

44. A carton comprising
box board comprising a plurality of panels comprising a bottom panel,
a front panel, a front reinforcing panel, a back panel, a lid, a flap, and end
closing panels, and score lines disposed between adjacent panels;
tape adhered to said box board, said tape comprising a polymeric
backing and an adhesive disposed on said backing, said tape being positioned
congruent to a score line; and
a cutting edge comprising a plurality of teeth defined by a plurality of
pairs of cut-lines on opposing sides of a score line, said teeth comprising a
triangular shape having a point and a base and being spaced from each other
along said score line.

44. The box of claim 44, wherein teeth formed by pairs of cut-lines on one side of said score line are staggered from teeth on the other side of said score line, said bases of said teeth being adjacent said score line.